9-1-1917

Collecting Bees in Southern Texas

Wilmatte P. Cockerell

Cockerell, WP. 1917

description except that the antennæ are shorter and the sculpture of prosternum is similar to that of the female of *frigidum*. It is nearest allied to *frigidum*, but the lateral area of prothorax is less coarsely sculptured and the lateral margin of elytra scarcely at all reflexed.

Callidium lacustre Casey.

This species was described from a single specimen, a female, from Bayfield, Wisconsin. It is unknown to me, at least, a single specimen which I refer doubtfully to this species has the prothorax below distinctly metallic blue and the sides of prothorax are not subangulate, but rather broadly rounded. However, in not fully developed specimens the underside usually shows scarcely a sign of metallic luster and as shown above the form of prothorax is more or less variable. The specimen in question looks superficially like a small *violaceum* but the sculpture of prothorax is different and the hind femora are shorter and more suddenly clubbed than in that species; it is, however, more closely related to *frigidum* but has longer antennal joints than that species.

COLLECTING BEES IN SOUTHERN TEXAS.

By Wilmatte P. Cockerell,

Boulder, Colorado.

There are only two seasons in Colorado, the pessimists say, summer and winter; and even the greatest admirer of Colorado weather must wish that spring, always late in coming, was not a succession of frosts and snowstorms. So it was with a distinct feeling of pleasure that I left Boulder, Colorado, the last day of March, to spend a few days in San Benito, Texas, a small town near the Mexican border.

The maples were in blossom in Boulder, the catkins of the willows were still in their smallest "pussy" state; sheltered by rocks on warm hill slopes a few pasque flowers and spring daisies (*Townsendia*) were blossoming, and honey bees and a few venturous *Andrena* flew about—signs that spring might come, indeed, though as I write this near the tenth of May there are still no leaves on the trees, and no wild bees flying. Kansas was weeks ahead, with blossoming coverts

along every creek and river, the very attractive red-bud (*Cercis canadensis*) brought into relief by the pale blossoms of plum and cherry. Later we rode through fields of Lupines, the justly celebrated Texas blue bonnet, carpeting the earth with its exquisite turquoise-like blossoms. These lupine fields were in Central Texas, and here spring was almost past, and I was not surprised when I reached San Benito to find that it was really summer there, and that the willows were filling the air with their small cotton covered seeds. I was only in San Benito three days, but during that time, thanks to Miss Mary Cowgill and her skillful driving, I saw several hundred miles of the surrounding "bush." We visited Point Isabel, Brownsville, and even drove across the international bridge into Matamoras, Mexico.

The "bush" about San Benito is typically desert. A characteristic form, called by the Mexicans crown of thorns (*Koeberlinia*) was covered with creamy white, star-like blossoms, very sweet scented and swarming with bees. Unfortunately, it was almost impossible to secure any of these bees, for the thorns made the use of a net impossible, and the bees were mostly too alert to be captured by hand. A common tree was called retama (*Parkinsonia aculeata*) and with its narrow leaflets and asymmetrical yellow and red blossoms looked very like some of the Japanese acacias, now so much esteemed by California gardeners. Many of the species in the "bush" had gray leaves with surprisingly large flowers. Tillandsia grew on the bush everywhere, and it all reminded me of Gualan, Guatemala, not even lacking the large black carpenter bees which I saw for the first time in Gualan. This "bush" seems to be the frontier of the tropics, and I was glad to find that my small collection of bees confirmed my general impression, the species of bees showing a curious mixture of northern and tropical forms.

The argemones, œnotheras, and opuntias were of especial interest. A beautiful white species of *Argemone* (*A. pinnatifida*) with rosy stamens had a most interesting variety, the petals pale pink, varying to a deep rosy purple. Only a few of these occur—in one field there were a thousand or more plants with white flowers, and only two with pink blossoms. In another place along the bank of an irregular ditch almost half of the plants bore rosy blossoms. Greene regarded this form as a different species from the white one, but when they are studied in the open there is no question but that the rosy form repre-

sents only a color variation. The argemones are easy flowers to collect from, and with the aid of Jack Cowgill, aged 6, I secured a good series of argemone-visiting bees. One day when I was away Jack used lemon extract to kill his bees, showing that even in this specialized age necessity may be the mother of invention.

The œnotheras were typically slightly pink, veined with rosy, but here and there a plant bore flowers of the same bright rosy color as the veins of the ordinary form. I also found white flowers in the fields with the rose-colored œnothera. No bees were found visiting these flowers.

The typical blossom of the opuntia was bright yellow, but here again there were most wonderful color varieties. The colors ranged through primrose and buffy and orange with the combinations of these colors with red, the darkest one was very lovely, a dull velvety, buffy-rose. Words give little idea of these color variations. I have seen nothing like the wonderful shades, though some of them are suggested by some of the Auriculas. We took a good series of bees from the opuntias, but none of them proved of especial interest.

LIST OF THE BEES COLLECTED.[1]

Colletes intermixtus Swenk.

San Benito, one male at flower of *Koeberlinia spinosa.*

Halictus (Chloralictus) politissimus new species.

♀. Length about 5 mm., anterior wing 4 mm.; rather robust, the head broad and round, but not unusually large; head and thorax shining dark green, abdomen and legs black; mandibles obscurely reddish apically; head and thorax with short, sparse, dull white hair; face and front shining, the front finely and not very densely punctured, the punctures much smaller at the sides than in the middle; antennæ dark, the flagellum obscurely brown beneath toward end; mesothorax convex, highly polished, with scattered, weak punctures; scutellum polished; metapleura minutely cross-striate; area of metathorax with irregular longitudinal plicæ on the basal half; tegulæ dark reddish; wings hyaline, strongly iridescent, stigma and nervures very pale testaceous; hind spur of hind tibia with three or four large blunt teeth; abdomen rather thinly pruinose-pubescent; bases of segments with beautifully plumose hairs; no conspicuous punctures on abdomen. Tegulæ not punctured.

San Benito, Texas, at flowers of *Argemone* (*W. P. Cockerell*). Not unlike *H. crassiceps* Ellis, but smaller, with much smaller head.

[1] By T. D. A. Cockerell.

Halictus (Chloralictus) rhodognathus new species.

♀. Length about 6 mm., anterior wing 4.3 mm.; rather robust, head broad but ordinary; head and thorax green, the front and face, mesothorax and scutellum olive green; mandibles bright ferruginous, black at base; antennæ black, flagellum rufescent beneath toward apex; front strongly and quite closely punctured, the punctures alike from side to side; mesothorax moderately shining but not polished, with rather close, very distinct punctures all over; scutellum very finely punctured, the punctures of two sizes; area of metathorax microscopically reticulate and with wavy ridges, with an obscurely subcancellate effect; tegulæ rufotestaceous, impunctate; wings grayish hyaline, stigma and nervures rather dusky testaceous; legs black; hind spur with three long teeth; abdomen shining black, with a faint brassy luster, the apical half thinly pruinose-pubescent; punctures excessively fine.

San Benito, Texas, at flowers of *Argemone* (*W. P. Cockerell*). Resembles *H. perpunctatus* Ellis, but the wings and abdomen are quite different.

Halictus (Chloralictus) pruinosiformis Crawford.

San Benito, many females at flowers of *Argemone*. One has the front and sides of face deep blue.

Halictus (Chloralictus) disparilis Cresson.

Point Isabel, one female at yellow composite. The abdomen is green.

Halictus (Chloralictus) coactus Cresson.

San Benito, many females at flowers of *Argemone*. The tegulæ are punctured.

Halictus capitosus Smith.

Point Isabel, one female at yellow composite.

Augochlora aztecula Cockerell.

San Benito, many females at *Argemone*. This was described from Mexico, and is new to the United States. One female was taken at *Koeberlinia spinosa*.

Agapostemon texanus Cresson.

San Benito, one male at *Argemone*.

Nomia nortoni Cresson.

Point Isabel, one male at yellow composite.

Exomalopsis zexmeniæ Cockerell.

Point Isabel, one female at yellow composite. Described from Guatemala; new to the United States.

Diadasia australis rinconis (Cockerell).

Point Isabel, many females at yellow composite; San Benito and between San Benito and Point Isabel, several females at flowers of cactus; San Benito, two found by Jack Cowgill on *Argemone*. Described from New Mexico.

Melissodes masuca Cockerell.

Point Isabel, six females at yellow composite; between San Benito and Point Isabel, both sexes at cactus; San Benito, male at *Parkinsonia aculeata*, female at *Phlox*. This was described from the male, and the female was unrecorded. I find I have a female, labelled "*M. galvestonensis*, variety," taken May 8 at Fedor, Texas, by Birkmann. The female runs in my tables to *galvestonensis*, except that there is a little dark hair on scutellum, easily overlooked. There is black hair on vertex. The male is quite distinct from *galvestonensis*.

Xenoglossodes wilmattæ new species.

♀. Length about 9 mm. Like *X. gutierreziæ* Ckll., but yellow band on clypeus much narrower, hardly broader than the apical red band; thorax above with dense, silky, reddish-ochreous hair, a broad suffused band between wings brownish; tegulæ rufous, blackish on disc; marginal cell longer and more slender; apical plate of abdomen broader, rounded at end, finely transversely striate. It may also be compared with *Melissodes spissa* Cresson, but is distinguished from that by being smaller, and by the yellow band on the densely white-haired clypeus.

Point Isabel, at yellow composite (*W. P. Cockerell*).

Lithurgus apicalis littoralis new subspecies.

♂. A little over 10 mm. long; pubescence tinged with ochreous; flagellum very dark reddish beneath; abdominal hair-bands slightly ochreous; segments 2 to 5, before the bands, and 6 with pure black hair; spurs of hind legs reddish. Perhaps a distinct species.

Point Isabel, at yellow composite (*W. P. Cockerell*).

Megachile montivaga Cresson.

Point Isabel, one female at yellow composite.

Megachile parallela Smith.

Point Isabel, one female at yellow composite.

Megachile disparipennis new species.

♀. Very close to *M. perpunctata* Ckll., from Mexico, but smaller, with paler wings, and more closely and distinctly punctured abdomen. Length about 10 mm.; easily known among the species of the United States by the black cloud in marginal cell and beyond; ventral scopa pale red, basally white, a little black at end of last segment; a conspicuous tuft of white hair behind each tegula, and a dense band of white hair on postscutellum; sides of face and front with pure white hair; abdomen with narrow white hair-bands; vertex with black hair. Mesothorax dullish and very densely punctured (in one specimen there is a smooth area on disc, but this is evidently abnormal); hind basitarsi only moderately broad, their inner face with bright fox-red hair; tegulæ black, with outer margin reddish; antennæ entirely black.

Point Isabel, three at yellow composite (*W. P. Cockerell*).

Xylocopa tabaniformis parkinsoniæ new subspecies.

♀. Differs from Smith's description of *X. tabaniformis* by hair of cheeks nearly all black; flagellum not rufotestaceous beneath; sides of thorax with black hair; apical joints of tarsi not ferruginous; tegulæ pure black; light hair of abdomen cream color; first abdominal segment with black hair, a very little pallid at sides apically.

San Benito, at flowers of *Parkinsonia aculeata.*

Bombus americanorum Fabricius.

San Benito, one female. The light hair is clear yellow, as in specimens from Boulder, Colo.; not tawny as in those from New Mexico and Illinois.

The identification of the *Argemone* found at San Benito has been a matter of perplexity, but it appears that we must call it *A. pinnatifida* Norton (*A. delicatula* Small). It is distinguished by the white flowers, the filaments and stigma very dark rosy red, anthers bright orange; sepals with long bristles, the horns in bud diverging, not bristly. An occasional variety has rose-pink to very pale pink flowers; this is to be called *A. pinnatifida* f. *rosea*; Coulter described it as *A. platyceras* var. *rosea.* Rarely the petals are white with bright pink streaks. We have had these forms in cultivation, from Texas seed.

While collecting bees, Mrs. Cockerell obtained three species of Syrphid flies, as follows:

Volucella esuriens mexicana Macq.

San Benito, at flowers of *Parkinsonia aculeata.*

Volucella fasciata Macq., variety.

San Benito, at *Argemone*. This differs from a Colorado specimen as follows: Third joint of antennæ longer and more slender; mesopleura without spots; spots in front of scutellum united to form a semicircular patch, emarginate anteriorly; wing-markings darker; marks on second abdominal segment paler, their apical side oblique and inner angle more acute. It deserves a distinctive name, but probably one of the many names given to Mexican species applies.

Chrysogaster bellula Willist.

San Benito, at *Argemone*.

NEW GALL MIDGES.

BY E. P. FELT,
ALBANY, N. Y.

The species described below have come to notice recently and are published at this time in order that the names may be used in an illustrated Key to American Insect Galls now in press.

Lasioptera piriqueta new species.

A series of three or four midges were received under date of April 24, 1917, from R. H. Van Zwaluwenberg, of the Agricultural Experiment Station, Mayaguez, Porto Rico, accompanied by the statement that they were reared from *Piriqueta ovata* (Bello) Urban, Family Turneraceæ, kindly identified through the courtesy of Dr. N. L. Britton, of the New York Botanical Garden. The specimens were accompanied by labels as follows: Accession number 32–1917, III–30–1917, 2041, Mayaguez, P. R. The parasites in the vial were kindly identified through the courtesy of Dr. L. O. Howard, chief of the federal bureau of entomology, by Mr. A. R. Girault as *Neomphaloides sica* Girault.

Gall.—An irregularly oval, hollow stem enlargement, length 1–1 5/10 cm., diameter 5–7 mm. This gall may apparently be inhabited by several larvæ. The surface is more or less hairy.

Male.—Length 1.5 mm. Antennæ short, 16 segments, the fifth with a